

Table 8. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electric Power Sector															
Geothermal	0.014	0.013	0.014	0.014	0.014	0.014	0.013	0.014	0.015	0.012	0.013	0.014	0.055	0.056	0.054
Hydroelectric Power (a)	0.253	0.236	0.213	0.188	0.214	0.223	0.200	0.189	0.243	0.270	0.222	0.205	0.890	0.825	0.940
Solar (b)	0.097	0.151	0.148	0.092	0.099	0.167	0.177	0.119	0.139	0.236	0.250	0.161	0.487	0.563	0.786
Waste Biomass (c)	0.047	0.043	0.044	0.043	0.043	0.041	0.042	0.042	0.043	0.041	0.042	0.041	0.176	0.168	0.168
Wood Biomass	0.051	0.046	0.053	0.047	0.044	0.040	0.047	0.045	0.048	0.043	0.052	0.046	0.198	0.175	0.189
Wind	0.403	0.416	0.278	0.384	0.429	0.350	0.294	0.420	0.464	0.375	0.312	0.436	1.481	1.492	1.587
Subtotal	0.864	0.906	0.749	0.768	0.843	0.833	0.773	0.828	0.952	0.978	0.891	0.904	3.287	3.278	3.724
Industrial Sector															
Biofuel Losses and Co-products (d)	0.203	0.202	0.197	0.206	0.199	0.202	0.205	0.210	0.201	0.200	0.204	0.201	0.808	0.816	0.806
Geothermal	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004
Hydroelectric Power (a)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.003	0.003
Solar (b)	0.003	0.004	0.004	0.003	0.003	0.005	0.005	0.003	0.004	0.005	0.005	0.004	0.015	0.016	0.017
Waste Biomass (c)	0.042	0.040	0.037	0.042	0.042	0.040	0.038	0.041	0.041	0.039	0.038	0.041	0.161	0.161	0.159
Wood Biomass	0.319	0.324	0.322	0.314	0.309	0.292	0.299	0.324	0.318	0.318	0.329	0.333	1.278	1.225	1.298
Subtotal (e)	0.573	0.577	0.567	0.571	0.559	0.545	0.554	0.585	0.570	0.569	0.583	0.584	2.288	2.244	2.307
Commercial Sector															
Geothermal	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.022	0.021	0.021
Solar (b)	0.012	0.018	0.018	0.012	0.014	0.021	0.021	0.015	0.017	0.024	0.024	0.017	0.061	0.070	0.081
Waste Biomass (c)	0.009	0.009	0.009	0.009	0.010	0.011	0.014	0.011	0.010	0.010	0.011	0.011	0.037	0.047	0.043
Wood Biomass	0.020	0.021	0.021	0.021	0.020	0.020	0.021	0.021	0.020	0.020	0.021	0.021	0.083	0.082	0.082
Subtotal (e)	0.054	0.060	0.061	0.054	0.056	0.065	0.068	0.059	0.059	0.067	0.068	0.061	0.230	0.248	0.255
Residential Sector															
Geothermal	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.040	0.039	0.040
Solar (f)	0.038	0.057	0.057	0.041	0.046	0.069	0.070	0.049	0.052	0.078	0.078	0.054	0.192	0.234	0.262
Wood Biomass	0.104	0.105	0.106	0.106	0.111	0.112	0.109	0.106	0.111	0.112	0.109	0.106	0.422	0.439	0.439
Subtotal	0.152	0.172	0.173	0.157	0.167	0.192	0.189	0.165	0.173	0.200	0.197	0.170	0.654	0.712	0.740
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	0.099	0.118	0.118	0.126	0.140	0.173	0.168	0.175	0.178	0.193	0.194	0.200	0.462	0.655	0.765
Ethanol (g)	0.262	0.281	0.281	0.283	0.268	0.284	0.283	0.285	0.268	0.283	0.289	0.277	1.108	1.120	1.117
Subtotal	0.361	0.399	0.400	0.410	0.408	0.457	0.451	0.460	0.447	0.475	0.483	0.477	1.569	1.776	1.882
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	0.099	0.118	0.118	0.126	0.140	0.173	0.168	0.175	0.178	0.193	0.194	0.200	0.462	0.655	0.765
Biofuel Losses and Co-products (d)	0.203	0.202	0.197	0.206	0.199	0.202	0.205	0.210	0.201	0.200	0.204	0.201	0.808	0.816	0.806
Ethanol (f)	0.273	0.293	0.293	0.295	0.279	0.296	0.295	0.297	0.279	0.294	0.301	0.289	1.153	1.166	1.163
Geothermal	0.030	0.030	0.031	0.031	0.030	0.030	0.030	0.030	0.031	0.028	0.030	0.030	0.122	0.119	0.119
Hydroelectric Power (a)	0.254	0.237	0.214	0.189	0.215	0.224	0.201	0.190	0.244	0.271	0.222	0.206	0.894	0.829	0.944
Solar (b)(f)	0.150	0.230	0.227	0.147	0.163	0.262	0.273	0.186	0.211	0.343	0.357	0.235	0.755	0.883	1.146
Waste Biomass (c)	0.098	0.092	0.090	0.094	0.095	0.092	0.094	0.094	0.094	0.091	0.092	0.093	0.374	0.376	0.370
Wood Biomass	0.494	0.496	0.503	0.489	0.484	0.464	0.476	0.496	0.497	0.493	0.511	0.506	1.982	1.920	2.007
Wind	0.403	0.416	0.278	0.384	0.429	0.350	0.294	0.420	0.464	0.375	0.312	0.436	1.481	1.492	1.587
Total Consumption	2.004	2.114	1.950	1.960	2.034	2.092	2.035	2.098	2.201	2.290	2.222	2.196	8.028	8.258	8.908

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

(a) Energy consumption for conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy, and energy consumption by small-scale solar photovoltaic systems (less than 1 megawatts in size).

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale solar photovoltaic systems (<1 megawatt), and it includes solar heating consumption in all sectors. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Historical data: Latest data available from EIA databases supporting the following reports: Electric Power Monthly, Electric Power Annual,

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Forecast data: EIA Short-Term Integrated Forecasting System.